Research International, Inc. - ASAP II

GENERAL DESCRIPTION:

The ASAP II collection/detection system continuously monitors for the presence of aerosol biohazards, identifying threat agents as frequently as every 20 to 30 minutes. It is an integration of Research International's proven SASS 2300 air sampler technology and RAPTOR four-channel bioassay system. ASAP II may be provided with a small fixed-installation environmental enclosure or in component form. In operation, the SASS 2300 samples air continuously and transfers particulates into a secondary water phase. These water samples are periodically transferred to the RAPTOR. One mL is used for analysis and the remainder is saved as a confirmatory sample. The RAPTOR automatically performs analysis for up to four agents using a disposable assay coupon. Each of the assay coupons may be reused up to 30 times over a 48-hour unattended operating period, providing extremely competitive per-assay costs. A remote PC allows operating personnel to monitor the system, while an optional green/amber safety light immediately communicates system status to nearby workers.

TECHNICAL DESCRIPTION:

The ASAP II uses RI's SASS 2300 wetted-wall cyclone to concentrate particulates into a water sample. Patented technology measures the volume of water in the cyclone and continuously replenishes evaporative losses, allowing unlimited collection periods. In operation, the SASS 2300 samples air continuously and transfers particulates into a secondary water phase. Transfer of the sample from the SASS to the Raptor is fully automated as are analyses, based on 'sandwich format' fluoroimmunoassays taking place on the surface of injection molded polystyrene waveguides. The waveguide has a monolayer of capture antibody immobilized on its surface. It is incubated with sample, washed and then incubated with fluorophore-labeled antibody. Excitation light is injected into and fluorescence emission is collected from the waveguide.

Tier Selection

Final tier assignment is based on overall product score.

Top Tier | Second Tier | Third Tier | Fourth Tier | Bottom Tier

RANKINGS

	Biological	Chemical	Radiological
FIELD USE System		N/A	N/A
MOBILE Laboratory		N/A	N/A
DIAGNOSTIC Laboratory		N/A	N/A
ANALYTICAL Laboratory		N/A	N/A

CONTACT INFORMATION

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COST

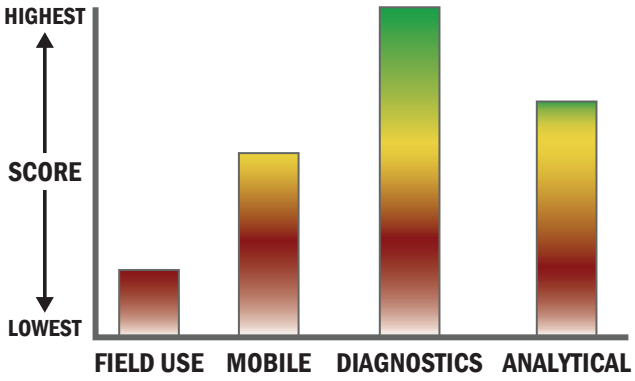
- $85,000/system
- $7/analysis

Survey Source

Vendor Supplied Information

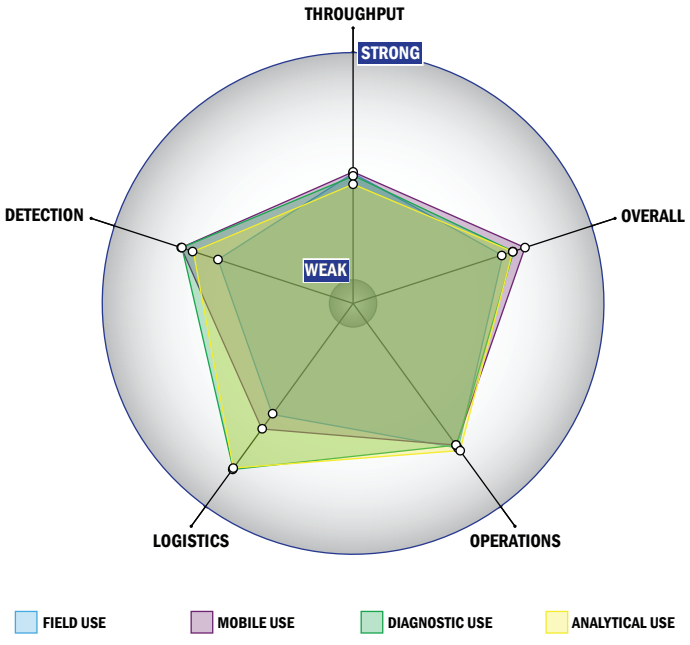
Scoring Analysis

System scores are compared across the four scenarios and ranked from highest to lowest.



Impact Chart

The Impact Chart is a spider graph representing specific categories and designed to give the reader a visual depiction of how a particular system is expected to operate across the four different scenarios. The score for each of the seven categories is presented as the percentage of the total possible score. Higher category scores extend the spokes of a graphic toward the outer edge of the chart. The area graphed for each of the four scenarios relates to how well the system performed in that scenario. Graphics for each of the four scenarios are super-imposed for ease of comparison.



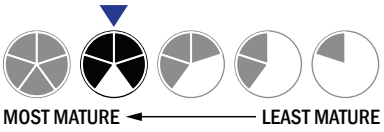
Evaluation Criteria

Throughput:

- Between 15 and 30 minutes for detection
- 1 sample, <10 tests/sample per run
- Less than 32 samples every 2 hours
- The system or device is currently fully automated
- Device or system is intended for multiple detection assays
- 5 or more solutions, buffer, eluents, and/or reagents
- 1 component
- 10-20 minutes is required for set-up
- Automatic detection

Logistics:

- Very brief (minutes-hours) training and minimal technical skills
- Approximately the size of a home dishwasher
- More than 50 kg
- Wireless and wired connections are available
- System or device has 110V electrical requirement
- 4-8 hours battery life



Operations:

- Can be used from 4°C to 41°C
- Components must be stored at 4°C
- Performance is not influenced by relative humidity
- Between 6 months and 1 year shelf life
- 5-10 years expected life
- Results cannot be viewed in real-time
- The system or device is currently fully autonomous
- The system software is closed and not available for modification
- The system hardware is open and available for modification

Detection:

- Possible the system could receive 510K clearance, no current efforts at this time
- Possible the system could receive FDA approval, no current efforts at this time
- Greater than 250 µL
- Excellent specificity. System has occasional false alarms under certain conditions (<2%)
- 10,000-100,000 CFU per mL
- Greater than 100,000 PFU per mL
- 1-10 ng per mL
- Spore lysis not necessary for detection by system